MODELING OF POTATO YIELD IN INDIA: AN EMPIRICAL APPROACH USING ARCH/GARCH MODEL

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Abstract

This study discusses the application of nonlinear models viz. Gompertz., Logistic, Quadratic, Mercer-Morgan-Flodin (MMF), Weibull and Richards to measure the growth and comparing with ARCH/GARCH methodology. Time series data on potato yield in India during 1952-2006 were utilized for the present study. The fitted non-linear models are compared using statistics such as Mean Squared Error (MSE), Mean Absolute Percentage Error (MAPE), Theil statistic/ One Step Ahead Forecasting (OSAF), AIC, SBC, etc. and found that both Logistic and Gompertz model are better fit to describe all India potato yield data.

Key words : Non-linear models, ARCH/GARCH, Mean Squared Error (MSE), AIC.